



# BEEF PRODUCTION IN THE MODERN AGE

## LEARNING GOALS

- To analyze how environmental and economic conditions shape the beef industry.
- To evaluate the pros and cons of local and global beef production in different regions.
- To practice drawing connections between local challenges and global contexts and best practices.

## ASSIGNMENT

Estimated Time: ~19 min

- Watch "[Cattle Industry Continues to Threaten Rainforest](#)" (5:13) \*published in 2008
- Watch "[The Hidden Costs of Hamburgers](#)" (~7min) \*published in 2012
- Watch "[Hawaii Cattle Company Looks to Expand Supply of Local Beef](#)" (3min)
- Discussion Prep: Read "[While not perfect, Cattle Ranching Has Benefits](#)" (2 min) and "[How Is Growing And Slaughtering Cattle Pono](#)" (2 min)

## TERMINOLOGY

- **Industrial Food** - the modern model of food production which makes extensive use of inputs such as chemical pesticides and fertilizers, and antibiotics
- **Concentrated Animal Feeding Operation (CAFO)** - a type of husbandry that is concentrated in a small land area. Feed is brought to the animals rather than the animals grazing.
- **"Grass-finished"** - the cattle ate cow's milk or grass/forage their entire lives
- **"Grass-fed"** - the cattle's diet may have started with grass, but then been supplemented by or replaced with grain (100% Grass-fed, on the other hand, does mean cattle ate nothing but grass).

## KAHOOT QUIZ

- Go to Kahoot.it or use the Kahoot mobile app and enter the pin 0799704
- Or, use [this link](#)

## DISCUSSION QUESTIONS

- How does increasing demand for beef in China and other countries contribute to deforestation in countries a continent away?
- In the Al Jazeera English video, one of the reporters describes a Carbon Credit system. What is this and how would it help to protect the Amazon?



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## DISCUSSION QUESTIONS (continued)

- The Al Jazeera video notes that the international community puts pressure on the Brazilian government to save the rainforest, while also increasing its demand for beef. How might the governments, as well as the civil societies, of different countries work together to address and reconcile these conflicting demands?
- Identify the different stakeholders or interests groups that play a role in the debate over how much land in the Amazon should be opened to cattle ranchers. In what ways can all work together to find an environmentally and economically sound solution? (For one potential approach, see the NPR podcast in the Additional Resources section)
- In what ways does beef contribute more to global warming than other meats or plants?
- Why don't beef products, such as hamburgers, reflect the environmental and health costs of production and consumption? Do you think raising the cost of beef products would encourage people to reconsider all of the costs of their consumption? Do you think this would be economically feasible?
- What are some key features of CAFOs?
- What role did the government/federal policy indirectly play in beef production in the 1970s? How can the government or non-government actors help to promote healthier and more environmentally-friendly ways to raise cattle? (For inspiration, see the Additional Resources section for articles on cattle ranching in Colombia and Nicaragua)
- In Hawaii, why do we ship most calves to the mainland and import processed beef? What social factors are shifting the industry a little away from this practice?
- The news report, "Hawaii Cattle Company Looks to Expand Supply of Local Beef", describes Kunoa Cattle's vision and business operations. Do you think this is a positive development or not?
- Debate: According to the two opinion pieces in the Maui News, what are the pros and cons of the cattle industry in Hawaii? Do you agree with one of the authors more than the other? Discuss your perspective with others.

## ADDITIONAL RESOURCES

- Watch: "[Why Beef is the Worst Food for the Climate](#)" (4:37)  
This video by Vox charts the environmental impacts of common foods and breaks emissions down into their different sources. It explains how beef is such a large source of greenhouse gases.
- [Interview with Michael Pollan](#) (10-15min)  
This is an interview by PBS with Michael Pollan, a well-known journalist and author of the award-winning *The Omnivore's Dilemma*. In this interview, he discusses feedlots, how they became the main mode of beef production, and what their impacts are for both cattle and human health as well as the environment.
- Watch: "[The diet that helps fight climate change](#)" (5:39)  
A video from Vox explaining how individual choices in diet, as trivial as they may seem, can make an impact on the climate. The video also explains how we can make small, environmentally-friendly changes in our diet while still eating the food we enjoy.



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## ADDITIONAL RESOURCES (continued)

- [“Quiz: Do you know how your diet affects the planet?”](#)  
A short quiz from the University of California regarding the impact of food production and consumption on climate change.
- Listen: [“Fighting Global Warming Requires Changes In How Cows Are Fed”](#) (5 min)  
A podcast from NPR re-imagining how cattle ranching, the beef industry, and American diets can become more environmentally sustainable by the year 2050.
- [“A new model for sustainable ranching systems in Nicaragua”](#) (~5 min)  
An article from ResCA explaining how cooperation between local nonprofits and a dairy company in Nicaragua has helped cattle owners adopt more sustainable ranching practices in response to climate change.
- [“Sustainable Cattle Ranching Pays off for Colombian Farmers”](#)  
An article from the World Bank explaining how local programs and personal initiatives have helped to test and develop sustainable farming methods like silvopastoral farming in Colombia.

## IDEAS FOR ACTION

### Easier

- Reduce the environmental impact of the cattle industry by eating less beef: once a week opt for the chicken instead or save beef for special occasions.
- Research the pros and cons to various alternatives to the CAFO form of industrial beef production being implemented by farmers around the world.
- The Al Jazeera English video was published in 2008. Has deforestation due to the cattle industry increased or decreased in the Amazon since then? Research and discuss.

### Medium

- The Reveal video explains that the cost or marketing of beef in restaurants or supermarkets does not necessarily reflect the negative environmental impact of raising cattle. Design a label for beef products that will inform people about the environmental impact of their meat consumption. Do you think the different actors in the beef industry (cattle ranchers, supermarkets, consumers) would support this type of label? Why or why not?
  - You may want to consider an article from NPR on the feasibility of a similar label: [Do We Need A New 'Environmental Impact' Label For Beef?](#)
- The Reveal video notes that, at the time of the video, the U.S. eats three times as much beef as other countries. Research why this is so and investigate whether Americans eat large amounts of beef out of convenience, affordability, or other reasons. Then, research other countries with diets that typically include less beef, and consider how these diets might be better for the environment. How might Americans adopt some elements of these diets into their daily lives?
- Visit a cattle farm on your island and interview a farmer on their perspective of Hawaiian cattle's place in the global beef industry.



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## IDEAS FOR ACTION (continued)

- Raise awareness: hold a viewing of a meat industry documentary and hold a discussion of the documentary afterward.
  - Invite a teacher familiar with sustainability to help guide the discussion or prepare some discussion questions yourself!

### Hard

- Research Hawaii's environmental regulations regarding cattle and how the industry affects our islands. Consider the pros and cons and write to your city and county legislators and tell them what you think should be changed and why it matters to you.
  - OR write a "Letter to the Editor" similar to the ones you read as an assignment or an Op-ed for a school or local newspaper.
- Role play: hold a discussion in which students can represent the interests of environmental nonprofits, national governments, the cattle industry, or consumers. How might these groups work together to find a solution that satisfies people's demand for beef and supports economies reliant on the cattle industry, while still adequately addressing environmental concerns about cattle production?

## HAWAII CORE STANDARDS FOR SOCIAL STUDIES (HCSSS) LINKS

- Content Standard [SS.WH.8.12.1](#)
- Content Standard [SS.US.12.8.1](#)
- Content Standard [SS.US.12.16.2](#)
- Content Standard [SS.MHH.4.9.1](#)
- Action Projects link to [SS.PID.5.7.1](#)

This lesson was created by Paige Lockwood with contributions by Megan Tagami.

